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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,995	01/28/2004	Yasuo Fukuda	CFA00046US	5020
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/766,995

Applicant(s)

FUKUDA ET AL.

Examiner

Amara Abdi

Art Unit

2624

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 5, 12, 13 and 16-19 is/are pending in the application.
- 4a) Of the above claim(s) 2-4, 6-11, 14 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 5, 12, 13 and 16-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Applicant's response to the last office action, filed May 19, 2008 has been entered and made of record.
2. In view of the Applicant Arguments, the rejection to the claims 5, 13, 17, and 19 under 35 USC 112, second paragraph is expressly withdrawn.

Remarks:

3. Applicant's arguments with respect to claims 1, 5, 12-13, 16-17, and 18-19 have been fully considered, but they are not persuasive.

a. Applicant argues that Matsuura and Imagawa, either taken alone or in combination, are not seen to teach "determining a representative luminance of the detected face region based on a histogram of the face region, the histogram of the face region being corrected based on highlight point and the shadow point". Furthermore, there is still no motivation or suggestion in Matsuura or Imagawa to combine the gradation correction and exposure correction.

However, in response to applicant's argument, the Examiner disagrees, because Matsuura clearly discloses a highlight point correction unit that corrects the highlight points of the image (column 9, line 19-22). The correcting of the highlight points of the image (face) will automatically implies the correcting of histogram of the image (face), since the histogram of the image is using the highlight point and shadow point of the image. Therefore, the correcting of the highlight points of the image obviously implies the correcting of the histogram image. Therefore, the use of Matsuura reference is

proper, and the rejection should be sustained. Regarding, the Applicant's arguments that there is still no motivation or suggestion in Matsuura or Imagawa to combine the gradation correction and exposure correction, the Examiner would like to point out the following precision:

Matsuura discloses an image processing device and method (column 1, line 65), (the image processing device is read as the image processing apparatus), and computer program (column 13, line 1-3), comprising:

Calculating means (S2 in Fig. 3) for calculating a highlight point and a shadow point of an image from a histogram of the image (figure 4, column 5, line 5-7);

first generating means (13 in Fig. 16) for generating a gradation correction based on the highlight point, the shadow point, the target highlight point and the target shadow point (column 9, line 19-22, and column 10, line 49-51).

Matsuura does not explicitly mention the following items the detecting means, for detecting a face region in the image, and determining means for determining a representative luminance of the detected face region based on a histogram of the face region. The histogram of the face region being corrected based on the highlight point and the shadow point.

Imagawa et al., in analogous environment, teaches an image communication terminal, where detecting a face region in the image (paragraph [0076], line 10-12), (the extracting of face is read as the same concept as the detecting of face), and determining means (112 in Fig. 22) for determining a representative luminance of the detected face region (paragraph [0260], line 11-14), (the representative luminance is

read as luminance information) based on a histogram of the face region (paragraph [0261], line 11-14). (The Examiner interpreted the correction of histogram of the face region based on the highlight point and the shadow point as obvious, since the correction of the highlight points of the image implies the correction of the histogram of the image (face), since the histogram is using the highlight point and shadow point of the image). (See column 9, line 19-22, and column 10, line 49-51).

All the elements of the image processing device of claim 1 are known in references Matsuura and Imagawa et al. The only difference is the combination of determining a representative luminance of the detected face region based on a histogram of the face region with the image processing device.

In addition the KSR states: "All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yield predictable results to one of ordinary skill in the art at the time of the invention" (*Adapted from Anderson's Black Rock Inc. v. Pavement Salvage Co.*)

Thus, it would have been obvious to one having ordinary skill in the art to use the determining a representative luminance of the detected face region based on a histogram of the face region with the image processing device as thought by Imagawa et al. with the image processing device as shown by Matsuura, since the determining a representative luminance of the detected face region based on a histogram of the face region could be used in combination with the image processing device to achieve the predictable results of providing an image communication terminal capable of

photographing a user at a good position because a camera part follows the position of the user without using a large-scale follow-up mechanism (paragraph [0016], line 1-5).

Therefore, claim 1 is still not in good condition for allowance.

Claims 12, and 18 include substantially similar features as that of claim 1, therefore, they are not in good condition for allowance, for the same reasons as those of claim 1.

b. Applicant argues that the target luminance of Matsuura is different from the target luminance of the present invention. Specifically, the target luminance of Matsuura is calculated based on the average luminance and the highlight and shadow areas, whereas the target luminance of the present invention is based on the representative luminance, which is calculated from the detected face region, and reference face luminance corresponding to a luminance range of the face.

However, in response to applicant's argument, the Examiner disagrees, because Matsuura clearly shows the setting of a target luminance based on the average luminance and the highlight and shadow areas of the image (Face). Specifically, the average luminance of Matsuura is corresponding to the luminance range of the image (Face), which could be read as the luminance range of the face. In the other side, the image region (the detected face region) clearly contains the highlight and shadow areas of the image or the face, therefore, the highlight and shadow areas could be read as the representative luminance. Therefore, the Matsuura reference reading on the setting of target luminance is proper, and the rejection of claim 5 should be sustained.

Therefore, claim 5 is still not in good condition for allowance.

Claims 13 and 19 include substantially similar features as that of claim 5, therefore, they are not in good condition for allowance, for the same reasons as those of claim 5.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 5, 12, 13, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuura (US 6,493,468) in view of Imagawa et al. (US 2001/0052928), and Akerib (US 6,460,127).

(1) Regarding claims 1, 12, and 18:

Matsuura discloses an image processing device and method (column 1, line 65), (the image processing device is read as the image processing apparatus), and computer program (column 13, line 1-3), comprising:

Calculating means (S2 in Fig. 3) for calculating a highlight point and a shadow point of an image from a histogram of the image (figure 4, column 5, line 5-7);

first generating means (13 in Fig. 16) for generating a gradation correction based on the highlight point, the shadow point, the target highlight point and the target shadow point (column 9, line 19-22, and column 10, line 49-51).

Matsuura does not explicitly mention the following items:

1) detecting means, for detecting a face region in the image, and determining means for determining a representative luminance of the detected face region based on a histogram of the face region. The histogram of the face region being corrected based on the highlight point and the shadow point; and

2) second generation means for generating an exposure correction based on the representative luminance; and correcting means for correcting the image based on the gradation correction and the exposure correction.

(a) Obviousness in view of Imagawa et al.

Imagawa et al., in analogous environment, teaches an image communication terminal, where detecting a face region in the image (paragraph [0076], line 10-12), (the extracting of face is read as the same concept as the detecting of face), and determining means (112 in Fig. 22) for determining a representative luminance of the detected face region (paragraph [0260], line 11-14), (the representative luminance is read as luminance information) based on a histogram of the face region (paragraph [0261], line 11-14). (The Examiner interpreted that the correcting of the highlight points of the image obviously implies the correcting of the histogram image, since the histogram of the image is using the highlight point and shadow point of the image)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Imagawa, where determining a luminance information, in the system of Matsuura in order to provide an image communication terminal capable of photographing a user at a good position because a camera part

follows the position of the user without using a large-scale follow-up mechanism (paragraph [0016], line 1-5).

(b) Obviousness in view of Akerib:

Akerib, in analogous environment, teaches an apparatus and method for signal processing, where generating an exposure correction (column 66, line 43), and correcting the input image (column 66, line 44-46, and column 67, line 33-44), (the correcting of an image in television application is read as the same concept as the correcting of the input image), (the representative luminance was disclosed by Imagawa as a luminance information, see paragraph [0260], line 11-14).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Akerib, where generating a exposure correction, in the system of Matsuura because such system is useful in variety of applications, such as digital or analogue camera, with or without special effects such as auto focus, gamma correction, and exposure correction (column 66, line 39-43).

(2) Regarding claims 5, 13, and 19:

Matsuura discloses an image processing device and method (column 1, line 65), (the image processing device is read as the image processing apparatus), and computer program (column 13, line 1-3), comprising:

calculating a highlight point and a shadow point of an image from a histogram of the image (S2 in Fig. 3, figure 4, column 5, line 5-7);

generating a gradation correction based on the highlight point, the shadow point, the target highlight point and the target shadow point (13 in Fig. 16, column 9, line 19-22, and column 10, line 49-51).

calculating a representative luminance (column 2, line 20-21) and setting a target luminance based on the representative luminance and reference face luminance corresponding to a luminance range of the face (column 2, line 23-24), (the average luminance of Matsuura is read as the luminance range of the face, because average luminance of Matsuura is corresponding to the luminance range of the image (Face), in the other side the highlight and shadow areas of the face are read as the representative luminance of the detected face areas, because the image region (the detected face region) clearly contains the highlight and shadow areas of the image or the face).

Matsuura does not explicitly mention the detecting means for detecting a face region in the image; generating an exposure correction and correcting the image.

Akerib, in analogous environment, teaches an apparatus and method for signal processing, where detecting a face (column 67, line 9-10), (the recognition of a face is read as the same concept as the face detection), generating an exposure correction (column 66, line 43) and correcting the input image (column 66, line 44-46, and column 67, line 33-44).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Akerib, where detecting a face region in the image, in the system of Matsuura because such system is useful in variety of

applications, such as digital or analogue camera, with or without special effects such as auto focus, gamma correction, and exposure correction (column 66, line 39-43).

6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuura, Akerib, and Funayama et al., as applied to claim 1 above, and further in view of Sato et al. (US 5,953,134).

Matsuura, Akerib, and Funayama et al. disclose all the subject matter as described in claim 1 above.

Matsuura, Akerib, and Funayama et al. do not explicitly mention the image processing, where rotating the image in accordance with photographic information of the image.

Sato et al., in analogous environment, teaches an image forming apparatus, where rotating the image in accordance with the photographic information of the image (column 10, line 24-26).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Sato et al., where rotating the image, in the system of Matsuura in order to have an excellent in the stability and reliability of the quality of an image formed as well as the efficiency of the delivery of a recording sheet after the image transfer (column 4, line 37-40).

7. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuura, Akerib, and Funayama et al., as applied to claim 5 above, and further in view of Tanaka et al. (US 5,760,831).

Matsuura, Akerib, and Funayama et al. disclose all the subject matter as described in claim 5 above.

Matsuura, Akerib, and Funayama et al. do not explicitly mention the image processing method, where calculating a gamma value based on the representative luminance and the target luminance.

Tanaka et al., in analogous environment, teaches an image processing apparatus with white balance control, where calculating a gamma value based on the representative luminance and the target luminance (column 6, line 66-67, and column 7, line 1), (the representative luminance is read as R,G, and B, and the target luminance is read as the luminance signal).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Tanaka et al., where calculating the gamma value, in the system of Matsuura in order to provide a white balance control which can collect data without reducing a frame (column 2, line 10-12).

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information:

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amara Abdi whose telephone number is (571)270-1670. The examiner can normally be reached on Monday through Friday 8:00 Am to 4:00 PM E.T..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2624

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Amara Abdi/
Examiner, Art Unit 2624

/Brian Q Le/

Primary Examiner, Art Unit 2624